

UMD159A - Preliminary

Extended InMarSat UMD Series Duplexer

Features

- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all UMD Series frequency bands
- Available for either PCB mounting or with various connectors including SMA, SMP-Max, and other options.

Applications

- Carrier-grade wireless infrastructure.

Description

Ceramic duplexer supports a universal footprint across all FDD frequency bands enabling the use of a common system PCB. Provides superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other duplexer technologies.



Available as direct-solder to PCB or with various connector options.

ESTIMATE Part Dimensions: 64 × 29 × 8 mm • <90 g (excl. connectors)
Materials: Ag plated ceramic block with tin plated brass shield

Electrical Specifications

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Nominal Impedance	-	50 ohms	-	-
Average Input Power (at up to 15kFt)	-	-	-	<= 32.0 Watt max
Peak Input Power (at up to 15kFt) (at up to 40kFt)	-	-	-	100 Watt max (Goal: 150W max)

Antenna to UL Response

Passband Insertion Loss (single point)	1518 - 1559	1.1 dB	1.3 dB max	1.4 dB max
Passband Return Loss	1518 - 1559	15 dB	14 dB min	14 dB min
Attenuation:	1626.5- 1675	74 dB	72 dB min	72 dB min
	1500	8 dB	6 dB min	5 dB min
	1492	17 dB	16 dB min	15 dB min
	1 - 1400	55 dB	50 dB min	50 dB min

DL to Antenna Response

Passband Insertion Loss (single point)	1626.5- 1675	1.3 dB	1.4 dB max	1.5 dB max
Passband Return Loss	1626.5- 1675	15 dB	14 dB min	14 dB min
Attenuation:	1518 - 1559	70 dB	69 dB min	69 dB min
	1565 - 1572	70 dB	69 dB min	69 dB min
	1573 - 1575	70 dB	69 dB min	69 dB min
	1575 - 1577	68 dB	66 dB min	66 dB min
	1578 - 1585	60 dB	55 dB min	55 dB min
	1586 - 1605	13 dB	11 dB min	8 dB min

DL to UL Response

Attenuation for UL band	1518 - 1559	72 dB	70 dB min	70 dB min
Attenuation for DL band	1626.5- 1675	74 dB	72 dB min	72 dB min

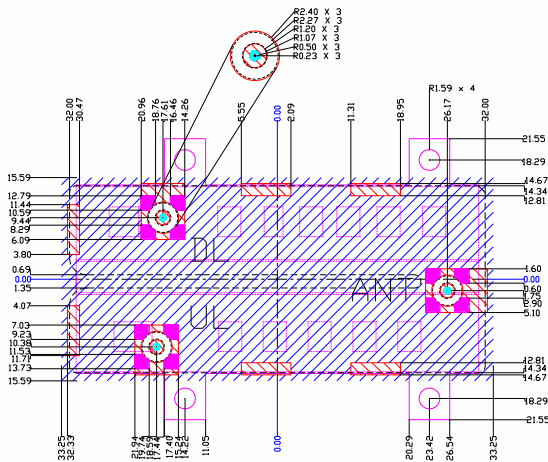
Note: CTS tests each unit to the critical specifications above. Subsequent audits may deviate due to repeatability among different test systems which shall not exceed these allowances.

Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

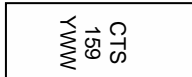
Mechanical Drawing

Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	64.00	Max
B	29.00	Max
C		
D		
E		
F		
G		
H		
I		
J		
K		

PCB Layout (Top-Down View)



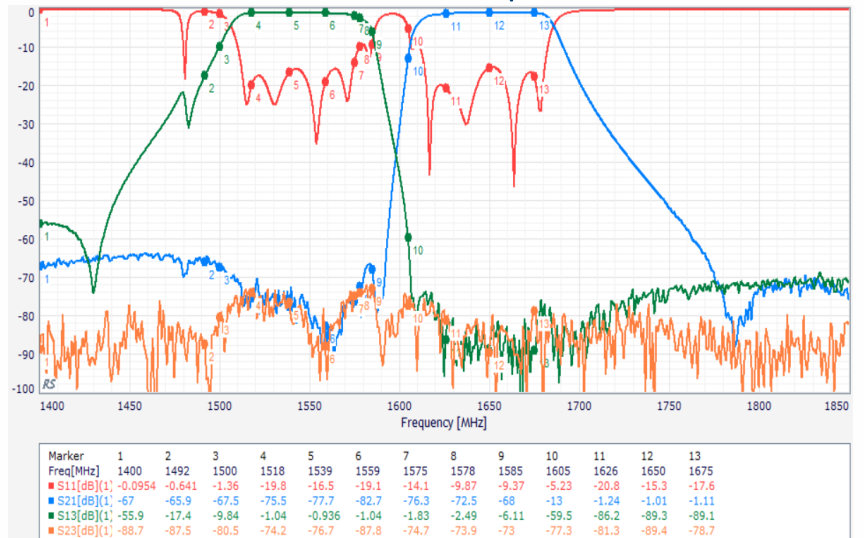
Packaging and Marking



Product is shipped in Pre-formed foam trays

The trays have xx slots each with one filter per slot. Boxes are packed with 12 Trays per box for a total of xx filters per box.

Electrical Response





Ordering Options

Part Number	Code	Connector Option Description
UMD159A	[blank]	No pins or connectors
	-C3	3 SMP-Com Male with limited detent
	-CF2	SMP-Com Male with limited detent antenna port + 2 SMP female cables
	-M3	3 SMP-Max Slide-type Male
	-P3	3 thru-hole pins for soldering to PCB
	-S3	3 SMA Female